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THOMAS, KAYDEN, HORSTEMEYER & RISLEY LLP
600 GALLERIA PARKWAY, 15TH FLOOR
ATLANTA, GA 30339

EXAMINER	
PARK, GEORGE M	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/646,179	CHAO ET AL.	
	Examiner	Art Unit	
	George Park	4114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/30/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

37 CFR § 1.105 - Requirement for Information

1. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

The information is required to complete the background description in the disclosure by documenting the dispatching rule as per claim 2, 7, 12, 17, 22 and 27 or whether the dispatching rule was derived.

The fee and certification requirements of 37 C.F.R. § 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 C.F.R. § 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of this requirement under 37 C.F.R. § 1.105 are subject to the fee and certification requirements of 37 C.F.R. § 1.97.

The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained will be accepted as a complete response to the requirement for that item.

This requirement is an attachment of the enclosed Office action. A complete response to the enclosed Office action must include a complete response to this requirement. The time

period for reply to this requirement coincides with the time period for reply to the enclosed Office action, which is 3 months.

In response to this requirement, please provide the citation and a copy of each publication which any of the applicants authored or co-authored and which describe the disclosed subject matter of demand dispatching with demand risk, demand dispatching systems/rules, the use of pilot orders and the use of buffer fabrication.

In response to this requirement, please provide the citation and a copy of each publication that any of the applicants relied upon to develop the disclosed subject matter that describes the applicant's invention, particularly as to developing demand dispatching with demand risk, demand dispatching systems/rules, the use of pilot orders and the use of buffer fabrication. For each publication, please provide a concise explanation of the reliance placed on that publication in the development of the disclosed subject matter.

In response to this requirement, please state whether any search of prior art was performed. If a search was performed, please state the citation for each prior art collection searched. If any art retrieved from the search was considered relevant to demonstrating the knowledge of a person having ordinary skill in the art to the disclosed demand dispatching with demand risk, demand dispatching systems/rules, the use of pilot orders and the use of buffer fabrication, please provide the citation for each piece of art considered and a copy of the art. In responding to those requirements that require copies of documents, where the document is a bound text or a single article over 50 pages, the requirement may be met by providing copies of those pages that provide the particular subject matter indicated in the requirement, or where such subject matter is not indicated, the subject matter found in applicant's disclosure.

Information Disclosure Statement

2. Applicant is informed that the "Taiwan Patent Office Action" cited in the Information Disclosure Statement filed 9/30/05 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

3. Claims 11, 13, 15, 16, 18 and 20-30 are objected to because of the following informalities: The term "IC" (page 14, as per claim 11, lines 1 and 3, page 15, as per claim 13, line 3, page 16, as per claim 15, line 5, as per claim 16, lines 1 and 4, page 17, as per claim 18, line 4, as per claim 20, line 5, page 18, as per claim 21, lines 1, 3 and 15, as per claim 22, line 1, page 19, as per claim 23, line 1, as per claim 24, line 1, as per claim 25, line 1 and 5, page 20, as per claim 26, lines 1, 2, 14 and 15, as per claim 27, line 1, page 21, as per claim 28, line 1, as per claim 29, line 1, as per claim 30, lines 1 and 5) should be spelled out to be --integrated circuit--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1).

Regarding to claims 1 and 11, Peachey-Kountz et al. discloses the invention substantially as claimed. Peachey-Kountz et al. discloses a demand dispatching method in an IC foundry (i.e.

semiconductor manufacturing) (column 1, lines 21-23), comprising the steps of: receiving a first demand (i.e. request) for a first IC product (column 4, lines 4-7); dividing (i.e. categorizing) the first demand into classes, forecast groups (i.e. order rate) and order priorities (see fig. 2 and 3, column 2, lines 11-16, column 4, lines 46-50), determining an expected quantity of a first fabrication (i.e. projected request) (column 5, lines 59-65); and dispatching (i.e. allocating) quantities to the first fabrication according to the expected quantity (i.e. projected requests) and forecast groups (i.e. order rates) (column 5, lines 6-7 and 59-65). However, Peachey-Kountz et al. does not explicitly disclose dividing the first demand into a low risk demand having a first order rate and a high risk demand having a second order rate; and dispatching a first quantity of the low risk demand and a second quantity of the high risk demand to the first fabrication according to the expected quantity, and the first order rate and the second order rate for the low risk demand and the high risk demand, respectively. Baseman et al. teaches factoring in demand risk (i.e. uncertainty) for supply chain management (column 4, lines 63-67, column 6, line 47, column 8, lines 43-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Peachey-Kountz et al. with the feature of dividing the first demand into a low risk demand having a first order rate and a high risk demand having a second order rate; determining an expected quantity of a first fabrication; and dispatching a first quantity of the low risk demand and a second quantity of the high risk demand to the first fabrication according to the expected quantity, and the first order rate and the second order rate for the low risk demand and the high risk demand, respectively as taught by Baseman et al., as both Peachey-Kountz et al. and Baseman et al. are directed to the

method of demand dispatching. The motivation for doing so would have been to dispatch quantities based on the level of risk demand.

7. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) and further in view of Jones ("Math 160 – Finite Mathematics", June 2003).

Regarding to claims 2 and 12, Peachey-Kountz et al. and Baseman et al. disclose the invention substantially as claimed. However, Peachey-Kountz et al. and Baseman et al. do not disclose the step of dispatching the first quantity of the low risk demand and the second quantity of the high risk demand to the first fabrication utilizes a dispatching rule as follows: EQ=FQ*FOR+SQ*SOR, wherein EQ is the expected quantity, FQ is the first quantity, FOR is the first order rate, SQ is the second quantity, and SOR is the second order rate. It is old and well known in the art to use an expected value criterion/formula (i.e. dispatching rule) in decision theory to weight outcomes (i.e. demand quantity) by their probability of occurrence (i.e. order rate), thus allowing the user to make the most effective decision based on the expected value (i.e. quantity). Jones discloses the expected value criterion (i.e. expected quantity) in decision theory by multiplying the payoff (i.e. demand quantity) by the probability of the payoff occurring (i.e. order rate) then adding the values (i.e. first quantity, second quantity, first order rate, second order rate) (see page 4, "Expected Value Criterion" , lines 1-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time invention was made to combine the method of Peachey-Kountz et al. and Baseman et al. with the step of dispatching the first quantity of the low risk demand and the second quantity of the high risk demand to the first

fabrication utilizes a dispatching rule as follows: EQ=FQ*FOR+SQ*SOR, wherein EQ is the expected quantity, FQ is the first quantity, FOR is the first order rate, SQ is the second quantity, and SOR is the second order rate as taught by Jones, as Peachey-Kountz et al., Baseman et al. and Jones are directed to the method of demand dispatching. The motivation for doing so would have been to dispatch demand based on the dispatching rule of expected quantity.

8. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) and further in view of Van Horn et al. (U.S. Pat. No. 6,604,089 B1).

Regarding to claims 3 and 13, Peachey-Kountz et al. and Baseman et al. and Jones discloses the invention substantially as claimed. However, Peachey-Kountz et al. and Baseman et al. do not disclose dispatching a third quantity of the low risk demand of a second demand for a second IC product dispatched to a second fabrication to the first fabrication if the difference between the expected quantity and the first quantity is exceeding a predetermined ratio of the expected quantity. Van Horn et al. teaches the availability of demand (i.e. items) provided the number does not exceed the difference between similarly committed units and the quantity (i.e. number of units available) (column 8, lines 54-59) and dispatching (i.e. generating request) when a number exceeds a predetermined ratio (i.e. threshold) (column 18, lines 2-5, lines 28-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Peachey-Kountz et al. and Baseman et al. with the feature of dispatching a third quantity of the low risk demand of a second demand for a second IC product dispatched to a second fabrication to the first fabrication if the difference between the

expected quantity and the first quantity is exceeding a predetermined ratio of the expected quantity as taught by Van Horn et al., as Peachey-Kountz et al., Baseman et al. and Van Horn et al. are directed to the method of demand dispatching. The motivation for doing so would have been to dispatch quantity of the demand according to the expected quantity.

9. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) in view of Van Horn et al. (U.S. Pat. No. 6,604,089 B1) and further in view of Ito (U.S. Pat No. 5,268,838).

Regarding to claim 4 and 14, Peachey-Kountz et al., Baseman et al. and Van Horn et al. discloses the invention substantially as claimed. However, Peachey-Kountz et al., Baseman et al. and Van Horn et al. do not disclose dispatching a remnant quantity of the high risk demand of the first demand to the second fabrication. Ito teaches dispatching (i.e. allocating) a remnant quantity (i.e. surplus) of demand (i.e. items) to the second fabrication (i.e. other producing point) (column 6, lines 24-26, lines 30-34, column 7, lines 38-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Peachey-Kountz et al., Baseman et al. and Van Horn et al. with the feature of dispatching a remnant quantity of the high risk demand of the first demand to the second fabrication as taught by Ito, as Peachey-Kountz et al., Baseman et al., Van Horn et al. and Ito are directed to the method of demand dispatching. The motivation for doing so would have been to optimize demand dispatching.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) in view of Van Horn et al. (U.S. Pat. No. 6,604,089 B1) and further in view of Iida (U.S. Pat. No. 5,255,197).

Regarding to claim 5, Peachey-Kountz et al., Baseman et al. and Van Horn et al. discloses the invention substantially as claimed. However, Peachey-Kountz et al., Baseman et al. and Van Horn et al. do not disclose the steps of: monitoring the variation in the first quantity of the low risk demand of the first fabrication; and dispatching a pilot order to the first fabrication if the variation in the first quantity of the low risk demand shows a downward trend. Iida teaches monitoring the quantity of demand (i.e. work objects) and dispatching a pilot order (i.e. trial fabrication) to handle special situations (i.e. downward trend in quantity) (column 4, lines 66-67, column 11, lines 27-34). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Peachey-Kountz et al., Baseman et al. and Van Horn et al. with the steps of: monitoring the variation in the first quantity of the low risk demand of the first fabrication; and dispatching a pilot order to the first fabrication if the variation in the first quantity of the low risk demand shows a downward trend as taught by Iida, as Peachey-Kountz et al., Baseman et al., Van Horn et al. and Iida are directed to the method of demand dispatching. The motivation for doing so would have been to dispatch demand efficiently according to the variation of the quantity.

11. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) and further in view of Lidow (U.S. Pub. No. 2002/0019761 A1).

Regarding to claims 6 and 16, Peachey-Kountz et al. discloses the invention substantially as claimed. Peachey-Kountz et al. discloses a demand dispatching system in an IC foundry (i.e. semiconductor manufacturing) (column 1, lines 21-23, column 3, lines 30-35), comprising: a database (i.e. repository) recording information for a first demand for a first IC product (column 4, lines 4-7, column 7, lines 9-10); dividing (i.e. categorizing) the first demand into classes, forecast groups (i.e. order rate) and order priorities (see fig. 2 and 3, column 2, lines 11-16, column 4, lines 46-50), determining an expected quantity of a first fabrication (i.e. projected request) (column 5, lines 59-65); and dispatching (i.e. allocating) quantities to the first fabrication according to the expected quantity (i.e. projected requests) and forecast groups (i.e. order rates) (column 5, lines 6-7 and 59-65). Baseman et al. teaches factoring in demand risk (i.e. uncertainty) for supply chain management (column 4, lines 63-67, column 6, line 47, column 8, lines 43-45). However, Peachey-Kountz et al. and Baseman et al. do not explicitly disclose an allocation planning module to receive the first demand, divide the first demand into a low risk demand having a first order rate and a high risk demand having a second order rate according to the risk information, determine an expected quantity of a first fabrication, and dispatch a first quantity of the low risk demand and a second quantity of the high risk demand to the first fabrication according to the expected quantity, and the first order rate and the second order rate for the low risk demand and the high risk demand, respectively. Lidow teaches an allocation planning module (paragraph [0143], lines 1-3, paragraph [0146], lines 4-7) for the

operations of supply chain network. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Peachey-Kountz et al. and Baseman et al., with the feature of an allocation planning module to receive the first demand, divide the first demand into a low risk demand having a first order rate and a high risk demand having a second order rate according to the risk information, determine an expected quantity of a first fabrication, and dispatch a first quantity of the low risk demand and a second quantity of the high risk demand to the first fabrication according to the expected quantity, and the first order rate and the second order rate for the low risk demand and the high risk demand respectively as taught by Lidow, as Peachey-Kountz et al., Baseman et al. and Lidow are directed to a demand dispatch system in an IC foundry. The motivation for doing so would have been to control the processes involved in dispatching demand.

12. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) in view of Lidow (U.S. Pub. No. 2002/0019761 A1) and further in view of Jones ("Math 160 – Finite Mathematics", June 2003).

Regarding to claims 7 and 17, Peachey-Kountz et al., Baseman et al. and Lidow discloses the invention substantially as claimed. However, Peachey-Kountz et al. and Lidow do not disclose utilizing a dispatching rule as follows: EQ=FQ*FOR+SQ*SOR, wherein EQ is the expected quantity, FQ is the first quantity, FOR is the first order rate, SQ is the second quantity, and SOR is the second order rate. It is old and well known in the art to use an expected value criterion/formula (i.e. dispatching rule) in decision theory to weight outcomes (i.e. demand

quantity) by their probability of occurrence (i.e. order rate), thus allowing the user to make the most effective decision based on the expected value (i.e. quantity). Jones discloses the expected value criterion (i.e. expected quantity) in decision theory by multiplying the payoff (i.e. demand quantity) by the probability of the payoff occurring (i.e. order rate) then adding the values (i.e. first quantity, second quantity, first order rate, second order rate) (see page 4, "Expected Value Criterion" , lines 1-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Peachey-Kountz et al., Baseman et al. and Lidow wherein the allocation planning module dispatches the first quantity of the low risk demand and the second quantity of the high risk demand to the first fabrication utilizing a dispatching rule as follows: EQ=FQ*FOR+SQ*SOR, wherein EQ is the expected quantity, FQ is the first quantity, FOR is the first order rate, SQ is the second quantity, and SOR is the second order rate as taught by Jones, as Peachey-Kountz et al., Baseman et al. and Jones are directed to the system of demand dispatching. The motivation for doing so would have been to dispatch demand based on the dispatching rule of expected quantity.

13. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) in view of Lidow (U.S. Pub. No. 2002/0019761 A1) and further in view of Van Horn et al. (U.S. Pat. No. 6,604,089 B1).

Regarding to claims 8 and 18, Peachey-Kountz et al., Baseman et al. and Lidow discloses the invention substantially as claimed. However, Peachey-Kountz et al., Baseman et al. and Lidow do not disclose wherein the allocation planning module further dispatches a third quantity

of the low risk demand of a second demand for a second IC product dispatched to a second fabrication to the first fabrication if the difference between the expected quantity and the first quantity is exceeding a predetermined ratio of the expected quantity. Van Horn et al. teaches the availability of demand (i.e. items) provided the number does not exceed the difference between similarly committed units and the quantity (i.e. number of units available) (column 8, lines 54-59) and dispatching (i.e. generating request) when a number exceeds a predetermined ratio (i.e. threshold) (column 18, lines 2-5, lines 28-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Peachey-Kountz et al., Baseman et al. and Jones with the feature of the allocation planning module further dispatches a third quantity of the low risk demand of a second demand for a second IC product dispatched to a second fabrication to the first fabrication if the difference between the expected quantity and the first quantity is exceeding a predetermined ratio of the expected quantity as taught by Van Horn et al., as Peachey-Kountz et al., Baseman et al., Lidow and Van Horn et al. are directed to the system of demand dispatching. The motivation for doing so would have been to dispatch quantity of the demand according to the expected quantity.

14. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) in view of Lidow (U.S. Pub. No. 2002/0019761 A1) in view of Van Horn et al. (U.S. Pat. No. 6,604,089 B1) and further in view of Ito (U.S. Pat No. 5,268,838).

Regarding to claims 9 and 19, Peachey-Kountz et al., Baseman et al., Lidow and Van Horn et al. discloses the invention substantially as claimed. However, Peachey-Kountz et al.,

Baseman et al., Lidow and Van Horn et al. do not disclose wherein the allocation planning module further dispatches a remnant quantity of the high risk demand of the first demand to the second fabrication. Ito teaches dispatching (i.e. allocating) a remnant quantity (i.e. surplus) of demand (i.e. items) to the second fabrication (i.e. other producing point) (column 6, lines 24-26, lines 30-34, column 7, lines 38-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Peachey-Kountz et al., Baseman et al., Lidow and Van Horn et al. with the feature of dispatching a remnant quantity of the high risk demand of the first demand to the second fabrication as taught by Ito, as Peachey-Kountz et al., Baseman et al., Lidow, Van Horn et al. and Ito are directed to the system of demand dispatching. The motivation for doing so would have been to optimize demand dispatching.

15. Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) in view of Lidow (U.S. Pub. No. 2002/0019761 A1) and further in view of Iida (U.S. Pat. No. 5,255,197).

Regarding to claims 10 and 20, Peachey-Kountz et al., Baseman et al. and Lidow discloses the invention substantially as claimed. However, Peachey-Kountz et al., Baseman et al. and Lidow do not disclose wherein the allocation planning module further monitors the variation in the first quantity of the low risk demand of the first fabrication, and dispatches a pilot order for a third IC product to the first fabrication if the variation in the first quantity of the low risk demand shows a downward trend. Iida teaches monitoring the quantity of demand (i.e. work

objects) and dispatching a pilot order (i.e. trial fabrication) to handle special situations (i.e. downward trend in quantity) (column 4, lines 66-67, column 11, lines 27-34). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Peachey-Kountz et al., Baseman et al. and Lidow wherein the allocation planning module further monitors the variation in the first quantity of the low risk demand of the first fabrication, and dispatches a pilot order for a third IC product to the first fabrication if the variation in the first quantity of the low risk demand shows a downward trend as taught by Iida, as Peachey-Kountz et al., Baseman et al., Lidow and Iida are directed to the system of demand dispatching. The motivation for doing so would have been to dispatch demand efficiently according to the variation of the quantity.

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) and further in view of Iida (U.S. Pat. No. 5,255,197).

Regarding to claim 15, Peachey-Kountz et al. and Baseman et al. discloses the invention substantially as claimed. However, Peachey-Kountz et al. and Baseman et al. do not disclose the steps of: monitoring the variation in the first quantity of the low risk demand of the first fabrication; and dispatching a pilot order for a third IC product to the first fabrication if the variation in the first quantity of the low risk demand shows a downward trend. Iida teaches monitoring the quantity of demand (i.e. work objects) and dispatching a pilot order (i.e. trial fabrication) to handle special situations (i.e. downward trend in quantity) (column 4, lines 66-67, column 11, lines 27-34). Therefore, it would have been obvious to one having ordinary skill in

the art at the time the invention was made to combine the method of Peachey-Kountz et al., and Baseman et al. with the steps of: monitoring the variation in the first quantity of the low risk demand of the first fabrication; and dispatching a pilot order to the first fabrication if the variation in the first quantity of the low risk demand shows a downward trend as taught by Iida, as Peachey-Kountz et al., Baseman et al., and Iida are directed to the method of demand dispatching. The motivation for doing so would have been to dispatch demand efficiently according to the variation of the quantity.

17. Claims 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1).

Regarding to claim 21 and 26, Peachey-Kountz et al. discloses the invention substantially as claimed. Peachey-Kountz et al. discloses a method of IC product manufacturing (i.e. semiconductor manufacturing) (as per claim 21) and an IC product produced (as per claim 26) (column 1, lines 21-23), comprising the process/steps of: receiving a first demand (i.e. request) for a first IC product (column 4, lines 4-7); dividing (i.e. categorizing) the first demand into classes, forecast groups (i.e. order rate) and order priorities (see fig. 2 and 3, column 2, lines 11-16, column 4, lines 46-50), determining an expected quantity of a first fabrication (i.e. projected request) (column 5, lines 59-65); dispatching (i.e. allocating) quantities to the first fabrication according to the expected quantity (i.e. projected requests) and forecast groups (i.e. order rates) (column 5, lines 6-7 and 59-65); receiving a purchase order (i.e. customer order) for the first IC product (column 3, lines 7-8 and 30-34); and manufacturing the first IC product corresponding to

the purchase order in the first fabrication (column 5, lines 55-59, column 9, lines 28-31). However, Peachey-Kountz et al. does not explicitly disclose dividing the first demand into a low risk demand having a first order rate and a high risk demand having a second order rate; and dispatching a first quantity of the low risk demand and a second quantity of the high risk demand to the first fabrication according to the expected quantity, and the first order rate and the second order rate for the low risk demand and the high risk demand, respectively. Baseman et al. teaches factoring in demand risk (i.e. uncertainty) for supply chain management (column 4, lines 63-67, column 6, line 47, column 8, lines 43-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Peachey-Kountz et al. with the feature of dividing the first demand into a low risk demand having a first order rate and a high risk demand having a second order rate; determining an expected quantity of a first fabrication; and dispatching a first quantity of the low risk demand and a second quantity of the high risk demand to the first fabrication according to the expected quantity, and the first order rate and the second order rate for the low risk demand and the high risk demand, respectively as taught by Baseman et al., as both Peachey-Kountz et al. and Baseman et al. are directed to the method of IC product manufacturing. The motivation for doing so would have been to manufacture the IC product based on the level of risk demand.

18. Claims 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) and further in view of Jones ("Math 160 – Finite Mathematics", June 2003).

Regarding to claims 22 and 27, Peachey-Kountz et al. and Baseman et al. disclose the invention substantially as claimed. However, Peachey-Kountz et al. and Baseman et al. do not disclose the step of dispatching the first quantity of the low risk demand and the second quantity of the high risk demand to the first fabrication utilizes a dispatching rule as follows: EQ=FQ*FOR+SQ*SOR, wherein EQ is the expected quantity, FQ is the first quantity, FOR is the first order rate, SQ is the second quantity, and SOR is the second order rate. It is old and well known in the art to use an expected value criterion/formula (i.e. dispatching rule) in decision theory to weight outcomes (i.e. demand quantity) by their probability of occurrence (i.e. order rate), thus allowing the user to make the most effective decision based on the expected value (i.e. quantity). Jones discloses the expected value criterion (i.e. expected quantity) in decision theory by multiplying the payoff (i.e. demand quantity) by the probability of the payoff occurring (i.e. order rate) then adding the values (i.e. first quantity, second quantity, first order rate, second order rate) (see page 4, "Expected Value Criterion" , lines 1-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time invention was made to combine the method of Peachey-Kountz et al. and Baseman et al. with the step of dispatching the first quantity of the low risk demand and the second quantity of the high risk demand to the first fabrication utilizes a dispatching rule as follows: EQ=FQ*FOR+SQ*SOR, wherein EQ is the expected quantity, FQ is the first quantity, FOR is the first order rate, SQ is the second quantity, and SOR is the second order rate as taught by Jones, as Peachey-Kountz et al., Baseman et al. and Jones are directed to the method of demand dispatching. The motivation for doing so would have been to manufacture the IC product based on the dispatching rule of expected quantity.

19. Claims 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) and further in view of Van Horn et al. (U.S. Pat. No. 6,604,089 B1).

Regarding to claims 23 and 28, Peachey-Kountz et al. and Baseman et al. and Jones discloses the invention substantially as claimed. However, Peachey-Kountz et al. and Baseman et al. do not disclose dispatching a third quantity of the low risk demand of a second demand for a second IC product dispatched to a second fabrication to the first fabrication if the difference between the expected quantity and the first quantity is exceeding a predetermined ratio of the expected quantity. Van Horn et al. teaches the availability of demand (i.e. items) provided the number does not exceed the difference between similarly committed units and the quantity (i.e. number of units available) (column 8, lines 54-59) and dispatching (i.e. generating request) when a number exceeds a predetermined ratio (i.e. threshold) (column 18, lines 2-5, lines 28-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Peachey-Kountz et al. and Baseman et al. with the feature of dispatching a third quantity of the low risk demand of a second demand for a second IC product dispatched to a second fabrication to the first fabrication if the difference between the expected quantity and the first quantity is exceeding a predetermined ratio of the expected quantity as taught by Van Horn et al., as Peachey-Kountz et al., Baseman et al. and Van Horn et al. are directed to the method of IC product manufacturing. The motivation for doing so would have been to manufacture the IC product according to the expected quantity.

20. Claims 24 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) in view of Van Horn et al. (U.S. Pat. No. 6,604,089 B1) and further in view of Ito (U.S. Pat No. 5,268,838).

Regarding to claims 24 and 29, Peachey-Kountz et al., Baseman et al. and Van Horn et al. discloses the invention substantially as claimed. However, Peachey-Kountz et al., Baseman et al. and Van Horn et al. do not disclose dispatching a remnant quantity of the high risk demand of the first demand to the second fabrication. Ito teaches dispatching (i.e. allocating) a remnant quantity (i.e. surplus) of demand (i.e. items) to the second fabrication (i.e. other producing point) (column 6, lines 24-26, lines 30-34, column 7, lines 38-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Peachey-Kountz et al., Baseman et al. and Van Horn et al. with the feature of dispatching a remnant quantity of the high risk demand of the first demand to the second fabrication as taught by Ito, as Peachey-Kountz et al., Baseman et al., Van Horn et al. and Ito are directed to the method of IC product manufacturing. The motivation for doing so would have been to optimize IC product manufacturing.

21. Claims 25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peachey-Kountz et al. (U.S. Pat. No. 6,463,345 B1) in view of Baseman et al. (U.S. Pat. No. 6,671,673 B1) and further in view of Iida (U.S. Pat. No. 5,255,197).

Regarding to claim 25 and 30, Peachey-Kountz et al. and Baseman et al. discloses the invention substantially as claimed. However, Peachey-Kountz et al. and Baseman et al. do not

disclose the steps of: monitoring the variation in the first quantity of the low risk demand of the first fabrication; and dispatching a pilot order for a third IC product to the first fabrication if the variation in the first quantity of the low risk demand shows a downward trend. Iida teaches monitoring the quantity of demand (i.e. work objects) and dispatching a pilot order (i.e. trial fabrication) to handle special situations (i.e. downward trend in quantity) (column 4, lines 66-67, column 11, lines 27-34). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Peachey-Kountz et al., and Baseman et al. with the steps of: monitoring the variation in the first quantity of the low risk demand of the first fabrication; and dispatching a pilot order to the first fabrication if the variation in the first quantity of the low risk demand shows a downward trend as taught by Iida, as Peachey-Kountz et al., Baseman et al., and Iida are directed to the method of IC product manufacturing. The motivation for doing so would have been to manufacture the IC product efficiently according to the variation of the quantity.

Conclusion

22. This Office action has an attached requirement for information under 37 C.F.R. § 1.105. A complete response to this Office action must include a complete response to the attached requirement for information. The time period for reply to the attached requirement coincides with the time period for reply to this Office action.

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gallacci et al. (U.S. Pub. No. 2003/0229526 A1) discloses a system and method for assessing supply chain. Milne et al. (U.S. Pat. No. 5,943,484) discloses a computer implemented tool for microelectronics manufacturing.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEORGE PARK whose telephone number is (571)270-3547. The examiner can normally be reached on Monday - Friday (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Cheng can be reached on (571) 272-4433. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GP
12/5/07

/Joe H Cheng/
Supervisory Patent Examiner, Art Unit 4114